CHAPTER III
PLANNING

"In all our affairs we see instances of the harmful effects of the human tendency to go to extremes. In logistics this further snowball effect is frequently illustrated by cases in which under-planning is followed by over-planning. If the logistic aspects of an operation are initially planned and provided on a seriously inadequate scale, experience has shown that the eventual commitment of logistic resources to that operation, in an effort to correct the initial deficiencies, will be lavish and wasteful. In other words, under-planning leads to over-planning. …If, in the early stages of an operation, the logistics support is deficient it will not be possible fully to exploit an early or unexpected tactical success. The inability to exploit a tactical success then prolongs the operation or the campaign. The result of this delay inevitably is a great increase in the logistic resources ultimately expended to achieve that specific objective."

RADM Henry E. Eccles, Logistics in the National Defense, 1959

1. General

The purpose of this chapter is to discuss planning global distribution of materiel. The objective is to provide balanced and precise materiel distribution support to the warfighter through highly visible and controlled operations. Supported combatant commanders plan and execute global distribution operations to gain a competitive, if not dominant, logistic advantage over an adversary. This chapter includes an overview of global distribution planning and key considerations incorporated into deliberate and crisis action planning (CAP) processes to ease the transition to war and MOOTW operations.

2. Global Distribution Planning

Global distribution planning involves the operations, logistic, and acquisition

communities. It is an iterative process that includes detailed analysis and evaluation of the distribution networks and functions supporting the end-to-end distribution process. Global distribution planning is a collaborative effort spanning the tactical, operational, and strategic levels of war.

Distribution planning is both art and science. Global distribution planners must understand the tradeoffs involved in global distribution planning to provide effective and efficient support to the operating force.

a. **Understanding Tradeoffs**. Planning global distribution of materiel requires the calculation of tradeoffs between requirements, inventory, and the physical capability to

provide materiel when, where, and in the quantity required. Tradeoff decisions are a function of the warning time prior to commencement of operations, resources available, and constraints and restraints imposed on a JFC by the mission. These tradeoff decisions involve choices between the numerous variables present within materiel supply chains. Requirements variables include differing physical characteristics of materiel, such as, volume and special handling characteristics, and required delivery dates to support the joint force operation. Inventory variables include source, location, and quantity of the required materiel. Physical distribution variables include distance, velocity, and the capacity and capability to move or store materiel. Combinations of these variables are present in every materiel distribution transaction with flexibility in one variable capable of offsetting constraints imposed by reality, or intentionally reduced capability, in another. The use of premium air transportation, for example, can offset low inventory levels and provide materiel from geographically dispersed locations. In assessing these tradeoffs, distribution planners must consider numerous constraints, such as finite resources in money, materiel, and forces, and achieve materiel support that is effective and efficient. Within the limits of these constraints, the following fundamentals should guide materiel distribution planning.

- Accurate and timely requirements determination is the most critical element in successful execution of global distribution of materiel.

- Seams and handoffs in supply chains should be minimized or eliminated. Time is lost and cost is incurred at every additional node or modal transfer in the global

distribution pipeline.

- Single points of failure should be avoided. Reduce risk by programming redundancy when required to provide back up and promote flexibility. Avoid complete reliance on a single process, mode, or node.

- Distribution planning is both art and science. The products of distribution planning are recommendations, not exact answers. Although requirements determination, as discussed above, is critical, unforeseen requirements will never be entirely eliminated. Management of change provides the ultimate test and validation of distribution plans and systems.

b. **Levels of Distribution Planning**. In traditional military logistic models, strategic, operational, and tactical logistic planning was sequential and had discrete, well-defined overlap points and process seams requiring synchronization and coordination. As global distribution operations increasingly incorporate supply chain management approaches, using information technology and new procurement/acquisition enablers, there is a growing imperative for integration, synchronization, and overlap of the levels of distribution planning that require a more expansive, less linear, approach to organizing integrated and interoperable distribution functions. Figure III-1 illustrates this evolution in military logistic planning.

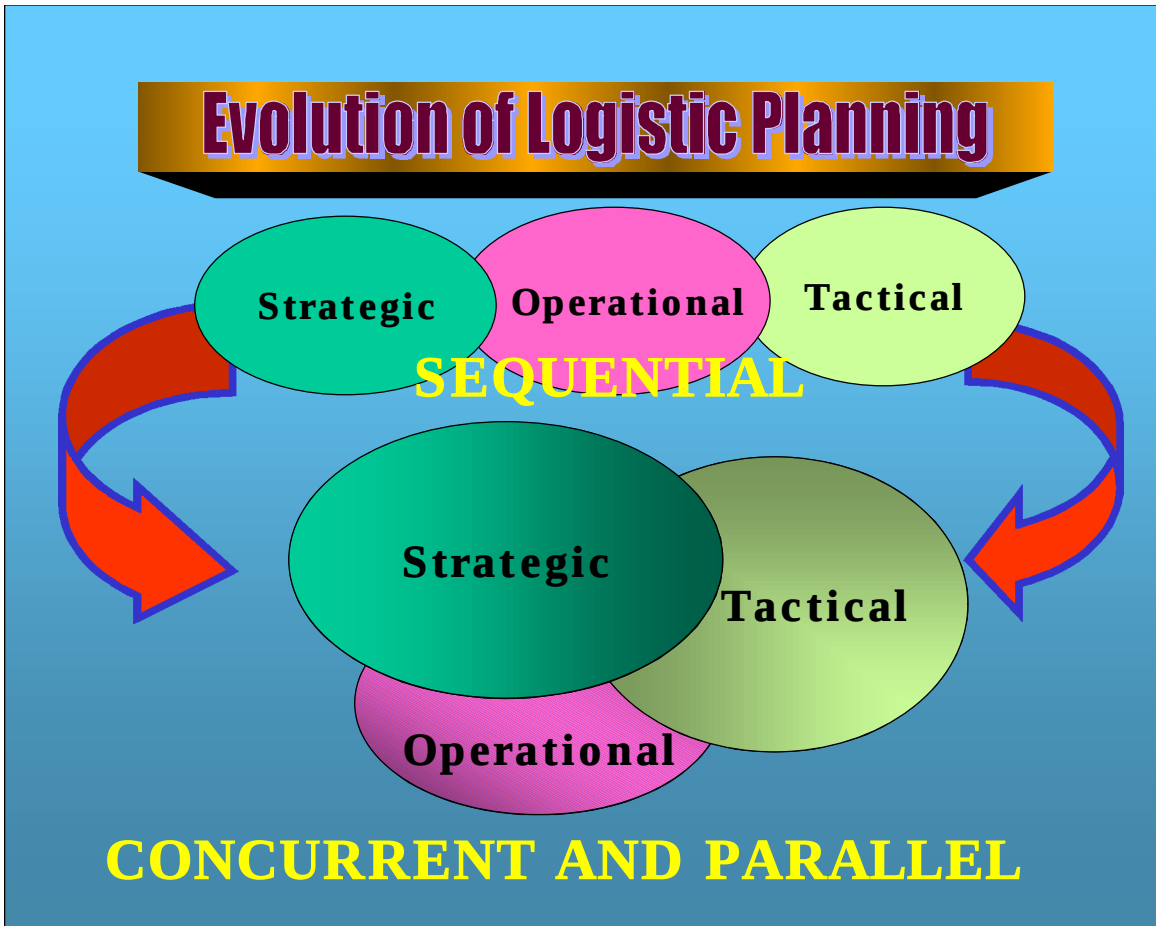

Figure III-1. Evolution of Logistic Planning

- **Strategic**. At the strategic level, the Services and defense agencies, in coordination with the combatant commands, conduct distribution planning. This planning focuses on preparing and providing the forces, equipment, and materiel necessary to support those forces during joint force operations. Military Services and defense agencies also focus their planning on providing force capabilities to conduct various aspects of global distribution operations. Strategic level organizations focus planning on establishing reserves of equipment and acquiring supplies for joint operations in support of US national policy. They also plan for the expansion of peacetime global distribution capabilities to meet the needs of anticipated operations

and provide for the continuous modernization of distribution networks and functions. Strategic level distribution planning has traditionally had a long-term focus spanning a five to ten year period. It now has a shorter-term focus, as well, in support of deliberate and crisis action planning by the combatant commands for execution of distribution operations. The role of strategic logistic organizations has evolved to the point where they now provide distribution capabilities or access to inventories in theater. Strategic level agencies and commands can now provide alternative means of generating the required flow of materiel needed to support a combatant commander's concept of operations--particularly when operational conditions permit commercial vendors direct access to US forces.

- **Operational**. Operational distribution planning is conducted by the geographic combatant commands and their Service component commands, with critical contributions made by strategic level Service and defense agency planners. Operational level planning is primarily concerned with preparing the means to generate and move required combat and supporting forces and materiel to desired operating locations in theater. This must be achieved while maintaining the inherent capabilities and readiness of assigned forces. To accomplish this, operational distribution planners identify requirements, harmonize strategic-to-theater distribution interface, develop theater distribution capabilities and resources, and manage their resources in support of the combatant commander's concept of operations for a given operation or campaign. Operational level distribution planners determine the basic mobilization, deployment, sustainment, and redeployment requirements for the forces and materiel

required by the JFC. In addition, they determine, in coordination with strategic level agencies, those resources and capabilities needed to shape and manage various commodity supply chains to fulfill planned requirements.

- **Tactical.** Tactical distribution planning is conducted by operational elements of a Service component in a theater or joint operations area. This planning focuses on execution of the distribution functions of supply, maintenance, and transportation in direct support of combat forces. The primary goal of tactical distribution planning is to attain and maintain combat readiness and provide materiel support to Service forces for near-term military operations. Tactical distribution planning includes line item planning to support discrete military unit mission capabilities. It involves the detailed application of the best planning factors available. Tactical distribution planners determine the composition, capabilities, and precise location of logistic facilities and units to best support the concept of operations.

c. **Planning Focus.** Understanding the supported combatant commander's concept of operations is the distribution planner's main focus. Early involvement by the logistic staffs and planners at all levels is paramount. Distribution planning focuses on the transition from peacetime military and associated commercial distribution techniques to those required for contingency or wartime operations. Planners must consider the impact and constraints of war or contingency operations on each of the distribution networks and functions involved in the flow of materiel. The product of distribution planning is a concept designed to provide a versatile and continual flow of materiel to support dynamic

operational requirements.

d. **Planning Balance**. Distribution planning must synchronize and balance materiel distribution flow with the other operational processes, such as deployment of military units and their accompanying logistic resources, to bring them together at the decisive place and time. Moreover, distribution planning must ensure strategic and intra-theater deployment and sustainment requirements are balanced and compatible with the theater's JRSOI and theater distribution capabilities. In addition, distribution planning should ensure that these requirements can be satisfied within the resource constraints imposed on the supported commander for mission execution.

- **Two Types of Distribution Balance**. The supported combatant commander must seek the right balance in the mix of military and commercial sector capabilities. In addition, the supported combatant commander must also weigh distribution requirements with other operational requirements to reconcile the competing demands that joint force operational processes impose on distribution networks.

  - **Distribution Requirements Versus Other Operational Requirements**. Planners will be continuously challenged to provide the proper balance of combat forces, support forces, and materiel support within the time constraints imposed by the mission and consistent with the supported combatant commander's intentions. Supported combatant commanders may have to expend military or political resources to acquire or expand the infrastructure, facilities, and capabilities to

support current or future operations. These choices are made throughout an operation and range from the subtle to the direct. Devoting strategic lift to deploy military port opening forces is a distribution decision that has operational implications. That same strategic lift may also be used to transport additional combat forces or materiel for force protection or other mission requirements. In a direct choice, a commander may use combat power to seize forward operating bases or main supply routes from adversary forces to expand logistic capability and gain freedom of action. Planning decisions concerning the in-theater balance of distribution capabilities with distribution mission requirements have an impact at the strategic level. Tradeoffs on theater distribution capabilities may require compensating application of strategic level resources. For example, limitations on 40-foot container handling and transporting capabilities in-theater may require additional investments in 20-foot containers at the origination end of the distribution pipeline.

•• **Deployment Versus Sustainment**. Logistic planners must avoid focusing solely on deployment tasks at the expense of distribution actions needed to sustain the employment concept of the campaign or operation. Efforts to reduce deployable unit level supply stocks among all Services, decrease logistic support forces and the "logistic footprint," and accelerate force closure times all hasten the commencement of sustainment actions. Achieving a greater velocity and earlier flow of sustainment materiel requires significant estimating and forecasting capabilities and accurate allocation of lift resources between deployment and

sustainment purposes. Figure III-2 illustrates the shift in deployment and sustainment flows.

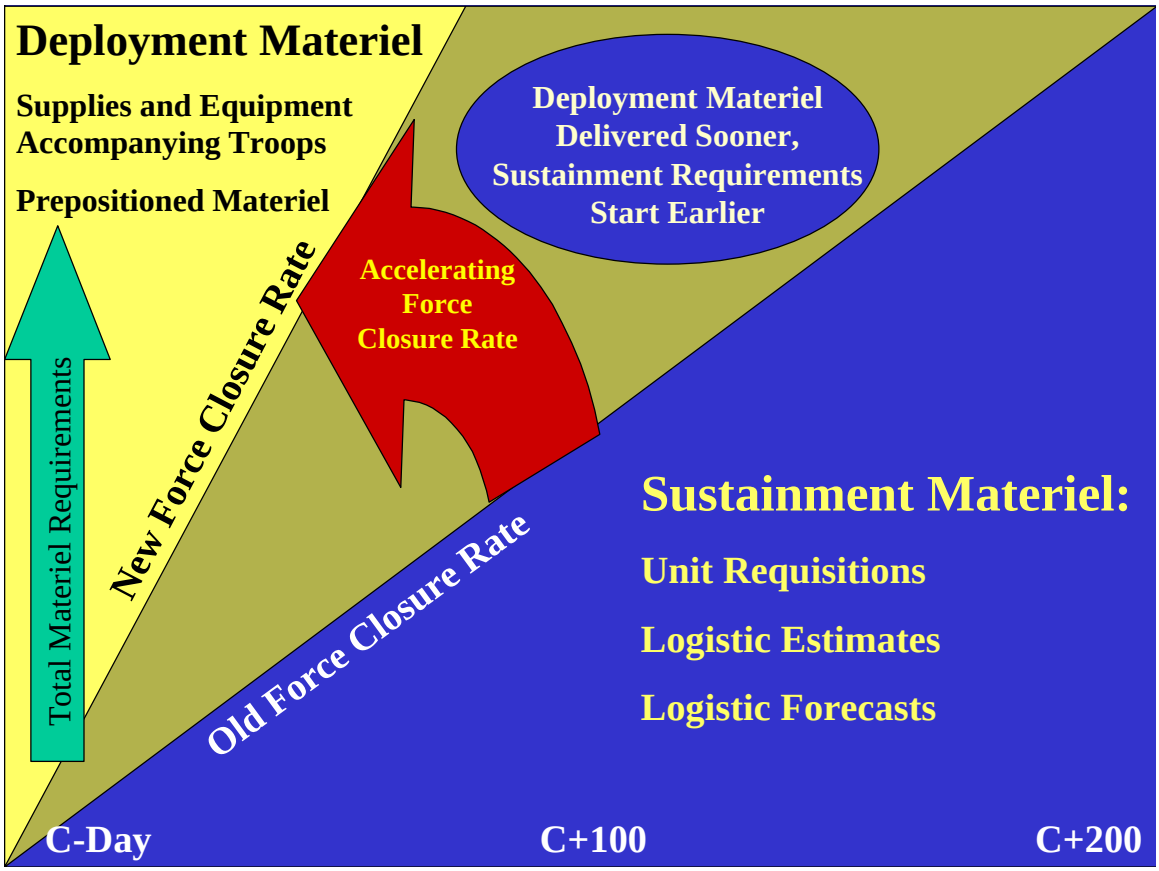

Figure III-2. Shift in Deployment and Sustainment Materiel Flows

- **Balance Between the Services and Other Organizations**. Distribution balance issues become more complex when multiple military Services (US and allied nations), non-governmental organizations (NGOs), and private voluntary organizations (PVOs) operate simultaneously within the theater and the LOCs approaching the theater. Coordination of distribution functions among all affected commands, nations, agencies, and organizations is essential to gain control of networks, avoid congestion of LOC nodes, and reduce duplication of effort. Combatant commanders should

provide general guidance, by function and area, wherever needed to ensure unity of effort.

3. Global Distribution of Materiel Planning Considerations

Global distribution of materiel involves essential planning considerations that must be used by planners at all levels to successfully accomplish distribution operations. Logistic planners must apply a supply chain management perspective and the fundamentals and tenets of global distribution to create logistic plans and support concepts. These considerations include the following:

a. **Requirements and Stock/Inventory.** Requirements and stock/inventory considerations determine the size and location of inventory to meet the materiel demands of the supported force. At the strategic level, planners must determine inventory quantities and locations to support objectives as articulated in the National Military Strategy and approved deliberate plans. Operational stock planning determines the materiel inventory levels and locations to support a particular campaign or operation. At the tactical level, stock planning determines the inventory needed to support battles or engagements. At all levels, size and location of inventories are governed by the ability to resource, procure, and move materiel. An essential planning element is critical item planning, which identifies critical supplies and materiel early in the planning process. Critical items are materiel vital to operations that are in short supply or will require intense management because of their inherent impact on physical distribution resources. These

items will normally require more extensive distribution planning. At the operational/tactical level, distribution planners must consider the ability to surge or position stocks necessary to support a main effort.

Vignette: "Kosovo Ammunition"

b. **Source/Organizations.** Source/organizational considerations are factors involved in determining sources of distribution support which consider the supply chain from the commercial source to the end user. Although ultimate source decisions involving strategic level equipment and materiel procurement are typically beyond the purview of distribution planners, they do cause distribution planners to make critical up-front decisions on sources of distribution support that relate to the intermediate links in the supply chain, particularly in terms of organizational responsibilities within joint forces. The major planning decision is whether to source materiel and distribution functions using DOD-owned and operated capabilities, commercial sources, or a combination of both. Commercial sources could be national level contracted capabilities, capabilities contracted within a theater or operational area, or those provided by a host nation. The JV 2020 goal of reducing the logistic footprint suggests planners should evaluate alternatives to the use of uniformed US logistic support forces.

- **Executive Agents.** Executive agents are DOD components that have been formally designated by the President, the SecDef, or Congress as the sole agency to perform a function or service for others by Presidential directive, legislative action, or

Office of the Secretary of Defense (OSD) directive, instruction, or memorandum.

- **Military Services.** At the operational/tactical level, the primary source of distribution support is the Services' own deployable combat service support capabilities. These units are the backbone of the theater distribution system. Factors to consider in selecting military capabilities, active or reserve, as a source of distribution support are: political considerations, nature of the threat and security considerations, unit availability, tactical footprint, lift availability, operational costs, and the time available to mobilize required units. The following military distribution organizational options are available as planning considerations:

  - **Single Service Logistic Support.** Each Service is responsible for the logistic support of its own forces. This Service responsibility extends into the theater, but may be modified when logistic support is otherwise provided for by agreements with national agencies or allies or by combatant commander assignment of common, joint, or cross-Servicing responsibility.

  - **Lead Service Logistic Provider.** The combatant commander may determine that common-Servicing would be beneficial within the theater or operational area. If so, the supported combatant commander may delegate the responsibility for providing or coordinating distribution support for all Service components in the theater or designated area to the Service component that is the dominant user. This delegation will typically be included in the combatant commander's operation

plan (OPLAN)/operation order (OPORD).

•• **Cross-Servicing.** Cross-Servicing is one Military Department providing dedicated logistic support to another. If one Service has the preponderance of a particular skill, capability, or class of supply in theater (such as ground transportation, ammunition storage, or fuel) it may be tasked by the supported combatant commander or by the SecDef to provide support to other Services operating in that theater. Combatant commanders may task the Services under directive authority for logistics, which is an inherent authority of combatant command (command authority), whereas the SecDef may task the Services under the executive agent designation system. Employing cross-Servicing helps eliminate logistic support redundancies among the Services.

For more information on types of Service support, see JP 4-07, "Joint Tactics, Techniques, and Procedures for Common User Logistics During Joint Operations."

- **Contract support planning** considers direct contracting with local HN sources and existing contracts, such as DOD or Service PV contracts, logistic civilian augmentation programs, and weapons systems support contracts. The key planning criterion for distribution planners in considering contract support to operations is the willingness and ability of the contractor to perform in the expected operational environment. The utility of contract support is weighed against the costs of protecting the contractor's operations against hostile actions. Ideally, contractor personnel

should be included in SOFAs. Contingency contracting capabilities are planned in support of joint operations to provide for local acquisition of facilities, supplies, and distribution services. US and multinational forces often deploy during joint operations to operational areas without established logistic support structures. Contingency contracting is an effective distribution support force multiplier that can bridge gaps that may occur before, during, and after sufficient military support has arrived in an operational area. Contingency contracting is particularly valuable where HNS is unavailable or inadequate.

Contract support planning and coordination must determine the willingness and ability of the contractor to provide contracted support in the anticipated operational environment.

•• **Civil Augmentation Programs.** Civil augmentation programs are separate Military Department contracting options most often used when HNS is insufficient or unavailable. They employ contracts with US and other vendors to provide support in such areas as facilities, engineering, supplies, services, maintenance, and transportation. Additionally, planners should consider initiating civil augmentation services contracts if SOFAs do not already contain those provisions. The goals of civil augmentation programs are to: (1) allow planning during peacetime for the effective use of contractor support in a contingency or crisis, especially as a quick reaction response to contingencies; (2) leverage global/regional corporate resources as facility and logistic force multipliers; and (3) provide an alternative augmentation capability to meet facility and logistic services shortfalls.

•• **Weapon System Product Support.** Weapons systems product support considerations are factors relating to the use of civilian personnel, either government employees or contractors, to support weapon systems instead of uniformed personnel. A major feature of DOD acquisition and logistic reform initiatives is the effort to capitalize and expand on best practices--commercial and government--to transform weapon system support processes to meet the urgent operational needs of warfighters. This includes competitive sourcing of weapon system product support increasing direct contractor materiel and maintenance support. If DOD product support shifts include an increased presence of contractor personnel at the theater level, support strategies must be consistent with the supported combatant commander policies for contractors in the battlespace. In

accepting contractors in theater as an integral part of product support, planners must include contractors, their equipment, supplies, and distribution practices in deployment and sustainment movement requirements. Theater distribution interfaces with strategic level product support providers should be transparent to the warfighter, regardless of support source.

- **HNS Considerations.** HNS Considerations are factors involved in obtaining materiel or services from HNS sources instead of traditional DOD sources. HNS should be considered as a source of distribution capabilities that can extend resources or mitigate resource shortfalls for a particular contingency. HNS responsibilities are negotiated through bilateral or multilateral agreements and memorandums of support. HNS agreements are wartime support vehicles. These agreements provide an alternative to the use of DOD resources for labor support for port and terminal operations, use of available transportation assets in country, use of bulk petroleum distribution and storage facilities, availability of other materiel, and development and use of other field services. The supported combatant commander may appoint one Service component to be executive agent for all Service components to conduct contracting arrangements with the HN to avoid duplication of efforts and to control costs. HNS factors to consider are the availability of agreements and capability of the HN to provide reliable levels of support. Maintaining current, comprehensive base support plans and conducting periodic site surveys are critical for validating HNS agreements required for implementing specific OPLANs. If agreements do not exist, or have limited application, then the supported combatant commander, in coordination

with the DOS, should immediately start negotiation of HNS agreements and arrangements combined with an integrated contracting plan to obtain necessary support. While HNS agreements provide the US pre-negotiated support for potential war scenarios, acquisition cross Service agreements (ACSAs) provide the legal authority for the US military and the armed forces of other nations to exchange logistic goods and services during contingencies. Transactions under this program must be reimbursed, replaced in kind, or exchanged at equal value, which may not always be the case with HNS agreements. Allied nations design their logistic systems to facilitate self-sufficiency within their fiscal capabilities. The sustainment of forces is each participating nation's responsibility, however varying degrees of mutual logistic support among nations can be expected. If an ACSA does not exist, the supported combatant commander can take steps to initiate an ACSA with the HN functional government when required.

- **Procurement Planning.** Procurement planning considers the ability to procure materiel in terms of resource availability and the ability of the industrial base to provide the materiel in a responsive fashion. Financial resource constraints will not allow unlimited inventory investment to meet all potential requirements. Fundamentally, procurement planning determines if DOD or federal agency inventories are adequate, if it is necessary to invest in new or additional government-owned and controlled stocks, or if items can be readily acquired to meet the needs of the joint force.

- If materiel is to be sourced commercially, planners must consider whether materiel will be acquired from the CONUS industrial base or whether it can be sourced in theater (or from other OCONUS areas.) In theater procurement of materiel can streamline and reduce requirements on other elements of the global distribution system when enabled by adequate procurement infrastructure in theater.

- When vendor support arrangements such as subsistence and medical PV programs are the peacetime norm, planners must integrate these programs into distribution planning. Planners must determine if DVD of materiel is possible and/or appropriate for a given operation.

c. **Requisition Planning.** Requisition planning considers factors that affect the timeliness and performance of distribution systems driven by the requisition process. These considerations are known by a variety of terms: order and ship time, logistic response time, or customer wait time. Operational planners apply basic standards to identify and determine the performance of a commodity supply chain responding to theater requirements. They also establish the overall standards of distribution performance and identify distinct standards, when necessary, for supporting the joint force main effort over supporting forces. Planners establish control mechanisms in collaboration with strategic level organizations to cause supply chains to react effectively. Planners must understand how these requisition processing standards transition from peace to contingency support. For example, requisition priorities may need to be upgraded or a project code established

for a particular contingency.

Early assessment of the physical infrastructure supporting joint force operations is critical to timely and precise global distribution support.

d. **Physical Distribution/Transportation Planning.** Physical distribution/transportation planning considerations in support of global distribution are those factors that govern transportation capability, capacity, and velocity consistent with requisitioning metrics and stock policy. Physical distribution/transportation planning for materiel distribution operations considers physical capabilities to move materiel,

infrastructure capabilities to support that movement, facility and equipment capabilities to store and maintain materiel inventories until required, and the controls required to manage all three. In doing so, transportation planners determine the capacity of the LOCs that support global distribution operations. The variables that normally affect these calculations are distance, transit time, and capacities across the range of transportation modes spanning strategic movement and physical distribution operations within the theater. These calculations are dynamic with varying solutions driven by changes in environment or operations. Operational level distribution planning must articulate force requirements to perform physical distribution operations in theater.

e. **Retrograde and Return Planning.** Retrograde and return planning considers the factors affecting the reverse distribution of reparable or excess materiel from the tactical level of operations back to designated repair or storage points. It is used to determine requirements for repair and transportation capabilities and the necessary logistic management systems to administer the materiel flow during retrograde and return. Retrograde planning must consider the type and amount of repairable components used by designated Service components, the maintenance concepts associated with these components, and the repair cycles that apply, particularly for major combat equipment items. The JV 2020 "reduced logistic footprint" goal includes revised maintenance concepts that depend on fewer in-theater maintenance resources. Expeditious and visible movement of reparable items rearward, and a similar movement of repaired items forward to the joint force, are essential to maintain operational readiness. Strategic decisions on weapon system maintenance support, often permanently fixed during the acquisition

process, must be reflected in corresponding distribution capabilities at all levels.

f. **Surge Planning Considerations.** Surge is the ability to meet increased requirements for goods or services caused by rapidly increased demands during war or other contingencies. Typically, surge requirements are directed at the industrial base and the transportation industry. Identified surge requirements are communicated to the industrial base and transportation industry and analyzed to determine a course of action to rapidly meet the emergent demand. Operational and distribution planners must understand surge capabilities, the avenues available to fulfill initial demands, the surge requirements the transportation system can support, and what special requirements or procedures need to be put in place to accommodate surge demand. With reduced DOD-owned inventories, the reliance on the industrial base for timely resupply has grown. Recent procurement practices, as described in Chapter V, Enablers, include surge requirements in procurement contracts and establish contractual guarantees of a supplier's surge response capability.

- **Industrial Base Surge and War Reserves.** Strategic level organizations and combatant command distribution planners must factor logistic response times for mobilization of the industrial base into plans to support their operations. Definitive DOD plans to support a combatant command must be in place prior to the start of any campaign or operation to ensure timely response from the Services, DLA, and industry. Although the greatest demand normally occurs within the first 30 to 60 days of an operation, industrial surge to meet the demands of more prolonged operations or campaigns requires significant additional lead-time to build to maximum output. The

DOD will frequently compete with private sector customers for a manufacturer's industrial capacity and inventories.

•• The Joint Industrial Mobilization Planning Process (JIMPP) is the mechanism that ensures the CONUS industrial base is capable of producing critical military items essential to the readiness and sustainment needs of the Armed Forces of the US across the range of military operations. The JIMPP is the deliberate planning tool that documents industrial mobilization plans and analytical processes to respond to a crisis or war. The process unifies industrial mobilization planning and analytical efforts by focusing on warfighting requirements and capabilities. The JIMPP is used by the Joint Staff, the Services, and defense agencies to: (1) estimate the capability of the industrial base to support execution of OPLANs developed through deliberate planning or courses of action (COAs) derived through CAP; (2) establish a baseline national industrial mobilization capability assessment mechanism based on the potential military demands identified through the JSPS; (3) coordinate the industrial mobilization planning of the Services and the defense agencies; and (4) identify and provide DOD industrial mobilization requirements to the industrial preparedness program.

•• **War Reserve.** War reserves are stocks of materiel maintained in peacetime to meet the increase in military requirements consequent upon the outbreak of war or other crisis. They represent a special category of inventory upon which global distribution planners may draw and can be used to offset the lead time constraints

of industrial surge response. War reserves are intended to provide the interim support essential to sustain operations until resupply can be effected from the industrial base. Defense planning policy requires the Services to: (1) acquire and position critical assets to maximize warfighting capability; (2) repair only those war reserve assets for which there is a valid requirement; and (3) procure new or additional war reserve items to fill demonstrated shortfalls or significantly improve joint force capability or survivability. Service component commanders must assess the risks of relying on war reserve stocks during planning and provide input to guide their Service's use of investment dollars to secure war reserve materiel. Some war reserve materiel may have strategic significance and be unavailable, or available in limited quantity, for support of specific operations such as MOOTW. Conversely, some war reserve requirements may be offset by industrial base planning, such as financial investment, by the DOD to guarantee industrial base response and/or access. Similarly, commercial access, rapid transportation, and asset visibility may also mitigate the necessity for war reserve investment. The key to war reserve management is accurate identification of total requirements and investment in critical materiel where access may be constrained or the lead-time is unsatisfactory to meet operational requirements. As the resource sponsors for war reserves, the Services need to be sensitive to the requirements of supported combatant commanders when determining the levels of acceptable risk.

- **Transportation Surge.** USTRANSCOM and its TCCs determine lift availability and assess the need for mobility augmentation based on projected movement

requirements to support proposed courses of action. Shortfalls in strategic common-user transportation assets may cause activation of several stand-by programs, discussed in Chapter V, Enablers, to augment military capability. In addition, depending on movement control requirements, port support activities, and the theater reception capability required for a particular operation, USTRANSCOM assets may be required to facilitate and manage transportation. For example, MTMC will assess CONUS surface transportation and common-user water terminal management requirements for both CONUS and OCONUS. AMC will assess anticipated CRAF requirements and MSC/ MARAD will review RRF and VISA for possible augmentation requirements.

g. **Strategic to Theater Distribution Interface.** During the transition to war/MOOTW, distribution plans must provide the supported combatant commander with the capability to influence the distribution of materiel support. To accomplish this distribution planner should:

- Evaluate existing peacetime distribution practices to determine applicability to the operational environment.

- Coordinate in-theater distribution networks and functions with the flow of materiel from strategic level sources.

- Balance materiel distribution and unit deployments with theater distribution

capacity and capability.

- Control distribution priorities and materiel flow.

- Execute and implement arrangements with supporting commands to clearly fix responsibility for specific distribution functions such as port operations or providing common user logistic support.

h. **NGO/PVO Considerations.** NGO/PVO presence and operations may place additional or different demands on the distribution system. They must be factored into distribution plans as potential additive requirements. In almost all military operations, there is a requirement to provide or factor in support of populations affected by the operations. While the military has no formal, routine relationship with these agencies the joint force may be tasked for support or asked for assistance. Planners must account for the activities of these agencies and the support provided to these agencies in global distribution planning. Planners must also consider that military forces in theater may be in competition with NGOs/PVOs for limited global distribution capabilities. Policy may dictate that these entities receive priority.

See Chapter VI, Other Operations, for more information on distribution support for NGOs.

i. **Multinational Considerations**. Multinational considerations are the factors

involved in establishing interoperability and coordination of distribution support to and from forces of other nations. In any multinational arrangement, the essential planning issue is determining which entity will provide what support and who will pay for it. Multinational arrangements are subject to variation based on the involved nations and the multinational force structure.

For more information on multinational operations see JP 4-08, "Joint Doctrine for Logistic Support of Multinational Operations."

j. **Distribution Network Constraints.** Distribution network constraints are the factors which place limits on global distribution networks and functions through the phases of mobilization, deployment, employment, sustainment, and redeployment during joint operations. Logistic planners must determine and understand these factors so they are capable of offsetting potential network constraints or can make informed tradeoff decisions to adapt to potential constraints.

- **Physical Network Constraints.** Physical network constraints are restrictions in the flow of materiel for CONUS, intertheater, and intratheater movements. These restrictions can also be described as bottlenecks that limit or degrade the ability of the distribution system to support a campaign or operation. Planners must take action to identify and offset or adapt to these constraints. Identifying constraints enroute to or within the theater is the first step in coordinating activities to avoid overloading theater LOCs. Traditionally, limited unloading capacity at ports and airfields, lack of asset

visibility, and limited inland transportation have constrained logistic support of combat forces. Distribution planners must anticipate congestion and seek solutions to these constraints. An infrastructure assessment is essential to understanding the capabilities and limitations of the theater to support distribution operations. It serves as the basis to determine the amount and type of support forces, equipment, and materiel that must be deployed early in the initial deployment of forces to facilitate the deployment of combat forces, as well as for determining facility upgrades required to enhance operations. The supported combatant commander, with assistance as required from USTRANSCOM, determines whether the theater is adequate for employment of assets, forces, facilities, and supporting systems. In cases where the geographic area is inadequate, options available to the supported combatant commander include increasing the infrastructure capacity, reducing the distribution flow, or extending allowable force closure times.

- **Information Network Constraints.** Information network constraints are limitations that may affect the flow of information, or the utility of that information. Planners must identify potential information network constraints and take action to offset or adapt to these constraints. Compatibility constraints, particularly when dealing with multinational, HN, or commercial partners, may affect information network operation. Capacity constraints may arise when network operations surge from peacetime to wartime levels. Restrictions imposed for operational security purposes may shut down or limit access to some peacetime information networks used in the global distribution process. The growing peacetime use and dependence on

Internet-based ordering systems or other enabling technologies with both DOD and commercial providers may be vulnerable to disruption during military operations from either hostile action or limitations on in-theater Internet access.

Access to information systems and assured on-demand communications are vital to global distribution operations. Global distribution planners must review compatibility and interoperability of information systems and communications during planning.

- **Communications Network Constraints.** Communications network constraints are physical or administrative restrictions within the communications network which may limit the amount of logistic communications traffic below that which is needed to

effectively conduct logistic operations. Planners must recognize these potential limitations and take action to increase the network capacity available for logistic communications, reduce logistic communications traffic, or establish alternative communications methods which are not in competition with higher priority users. Joint communications systems, such as GCCS and GCSS, in concert with Service communications capabilities, provide the means to achieve the unity of effort necessary to successfully conduct distribution operations. In past military operations, some logistic communication processes dependent on defense communications network transmission have been delayed, or displaced entirely, by higher priority operational communications.

- **Financial Network Constraints.** Financial network constraints are factors that may restrict fiscal resource availability for distribution operations. Of immediate concern is the adequacy of funding, the authority and ability to access that funding, and the ability to rapidly disburse financial resources to obtain needed distribution capabilities and materiel. The compartmentalized nature of DOD financial apportionment between the Services and defense agencies may affect both long-term and short-term elements of global distribution. Planners may influence long-term financial apportionment through the establishment of materiel and capabilities requirements in combatant command OPLANs.

4. Planning Global Distribution of Materiel

The Director of the Logistics Directorate (J-4) of a joint force is the proponent for global distribution planning for a given operation, campaign, or theater. The J4 is supported in this planning effort by the Service components of the joint force, supporting combatant commands, defense agencies, Service logistics commands, and key commercial partners. The task of distribution planning is fundamental to accomplishing joint theater logistics management (JTLM). The essence of planning global distribution of materiel is determining the materiel requirements and distribution capabilities needed to support joint forces and verifying sourcing and resourcing for both. These distribution requirements and capabilities must be integrated into the framework supported by formal joint operation planning processes and systems. All distribution planning is supported by the framework of the Joint Operations Planning System (JOPES) and its associated processes. The product of successful distribution planning is a distribution concept tailored to anticipated operational requirements and circumstances and articulated in distribution plans within combatant command OPLANs/OPORDs. These distribution plans must guide the planning of supporting commands and organizations within the DOD, as well as external departments and agencies, and HNs that will be supporting mission execution.

a. **Joint Operation Planning and Execution System.** JOPES is the integrated joint C2 system used to support military operation monitoring, planning, and execution activities. JOPES provides policies and procedures to ensure effective management of planning activities across the spectrum of joint operations. JOPES has two principal planning processes, deliberate and CAP, to accomplish joint operation planning. Plans for the mobilization, deployment, employment, sustainment, and redeployment of military

forces are prepared using a set of known or assumed threats or circumstances..
Supporting plans should include an integrated and synchronized distribution concept with the appropriate level of detail.

For information about JOPES, see CJCSM 3122.01, "Joint Operation Planning and Execution System, Volume I (Planning, Policies, and Procedures)."

- **Deliberate Planning.** Deliberate planning is the process used to plan military operations for contingencies identified in joint strategic planning documents. Conducted principally in peacetime, deliberate planning is accomplished in prescribed cycles in accordance with the JSPS. The NCA provide guidance for joint operation planning to the CJCS in the Contingency Planning Guidance produced by the SecDef. The CJCS produces the JSCP to implement the NCA's guidance. The JSCP provides guidance to the combatant commanders and the Services to accomplish tasks and missions based on current capabilities. From this document, the combatant commanders develop their plans.

  - Deliberate planning is a highly structured process that engages combatant commanders and staffs in the methodical development of fully coordinated, complex plans for all contingencies and the transition to and from war. Plans developed during deliberate planning provide the foundation for and ease the transition to crisis operations. Work performed during the deliberate planning

process allows the joint planning and execution community to develop the processes, procedures, and planning expertise that are needed during CAP.

•• Deliberate planning is the combatant commander's best opportunity to determine and provide accurate logistic planning information that will ultimately affect the capacity and throughput capability of the global distribution pipeline. Planning efforts during this phase apply a disciplined approach to global distribution planning. Commencing with the logistics estimate process, planners identify materiel requirements for supported forces and determine the global distribution capabilities and capacities needed to deliver materiel when, where, and in the quantities required. Planners must also assess the availability of resources to make both materiel and distribution capabilities available. Distribution planning identifies shortfalls in both materiel and capabilities and determines alternative courses of action to resolve those shortfalls. Applying key distribution considerations to estimate materiel and capability requirements provides the initial basis for a distribution plan.

•• A critical aspect of this planning process is determining facts and assumptions as they relate to the elements of distribution. Assumptions must eventually be converted to facts. The critical nature of distribution support and the changing manner in which global distribution elements are executed requires a disciplined approach to verifying and converting planning assumptions to facts.

- The resulting products of the deliberate distribution planning process should be distribution plans that are: (1) appropriate, (2) acceptable, and (3) feasible.

- **Crisis Action Planning.** CAP is based on current events and conducted in time-sensitive situations using assigned, attached, and allocated forces and resources. Crisis action planners base their plans on the actual circumstances that exist at the time planning occurs. They follow prescribed CAP procedures that parallel deliberate planning, but are more flexible and responsive to changing events and the time available. CAP procedures provide for the timely flow of information and intelligence, rapid execution planning, and the communication of decisions of the NCA to combatant commanders. As in deliberate planning, CAP must incorporate distribution considerations and articulate a distribution concept of support that is integrated and synchronized with the concept of operations.

For information on the joint operation planning process, see JP 5-0, "Doctrine for Planning Joint Operations."

b. **Key Materiel Distribution Planning Tasks.** Distribution planning tasks provide guidance to distribution planners assessing the adequacy and feasibility of concepts of support for campaign and operation plans. For materiel distribution planning, logistics planners should:

- **Analyze Sourcing.** JOPES planning is capabilities based. Military planners use

the forces and resources specified for regional or global planning, as appropriate, in the JSCP, CJCS orders, Service capabilities documents, and approved OPLANs or OPORDs. Using the forces and resources apportioned for planning, supported combatant commanders select those forces they intend to employ within their plans or operations to complete the assigned task. The assessment of apportioned forces and sustainment against actual sourced forces and sustainment and risk may identify shortfalls. JOPES contains specific procedures for the supported command to identify shortfalls between the planned requirement and the identified capability at various points in the planning process. The supported command then attempts to resolve shortfalls, conduct risk analysis if the shortfalls are not resolved, and modify the combatant commander's strategic concept if the resultant risk is too great. Planning in JOPES begins with a comparison of planned required forces and resources with actual forces and resources available. During this stage in the planning process, personnel and logistic requirements are evaluated to assess force sustainability and transportation feasibility and to develop an end-to-end distribution concept. This process involves coordination and cooperation with supporting commands and agencies. Supporting commands and agencies confirm force and resource availability and source unit and materiel requirements during the execution planning. Sourcing decisions are critical to the acceptability, adequacy, and feasibility of the concept of support. Modernization of DOD logistics processes has created major changes in the sources of materiel inventories, physical distribution capabilities, and the processes for accessing those sources. Planners must understand the current distribution concepts for various commodity supply chains and be able to accurately source and incorporate new

distribution capabilities.

- **Verify Sustainment.** Sustainment planning is directed toward providing and maintaining levels of personnel, materiel, and consumables required to sustain the planned type of activity for the appropriate duration and at the desired level of intensity. Sustainment planning is the responsibility of the combatant commanders in close coordination with the Services and defense agencies. Detailed planning is necessary to determine force and sustainment requirements from the beginning of the deployment flow, determine available resources to fill identified requirements, and validate and reconcile shortfalls. Sustainment planning is an iterative and continual refinement process. The time-phased force and deployment data (TPFDD) must reflect the total materiel requirements of the joint force, to include sustainment materiel. With the increased emphasis on reduced Service logistic footprints, the importance of up-front sustainment planning cannot be overstated. Sustainment requirements included in combatant command OPLANs/OPORDs must be realistic and reflect the detailed distribution analysis required to ensure timely materiel support.

- **Refine Logistic Support.** Logistic refinement is the process of resolving shortfalls in logistic support during the planning process. It is conducted by Service sourcing agencies, DLA, combatant command components, and supporting combatant commands under the overall direction of the Joint Staff and the supported combatant commander during deliberate and crisis action planning. During deliberate planning the Commander in Chief, United States Transportation Command (USCINCTRANS)

hosts logistic refinement conferences for the Joint Staff and supported combatant commands to review the logistic support of OPLANs. The purpose of the logistic refinement conference is to confirm sourcing of logistic requirements in accordance with JSCP, Joint Staff, and Service guidance and to assess the adequacy of resources provided by support planning. The logistic community begins refinement of a TPFDD when a completely sourced and adequate TPFDD is provided by the supported combatant command. Sourcing includes identification of facilities and materiel support requirements. During the logistic refinement conferences, the combatant commands, Services, and defense agencies will resolve problems (or shortfalls) related to unit and non-unit related personnel, cargo, retrograde, medical evacuation, and resupply. At the conclusion of the logistic refinement conference, USCINCTRANS will reassess transportation feasibility for the supported combatant commander to ensure the TPFDD can be executed. The refined TPFDD articulates the combatant commander's distribution concept and highlights "warstopper" materiel requirements. If the TPFDD fails transportation feasibility analysis, distribution planners must consider alternative actions to achieve deployment and sustainment goals within the envelope of transportation capability. Creating or increasing theater materiel stocks and shifting prepositioning ships are potential responses to transportation shortfalls. Refinement of logistic support during CAP is conducted using the same considerations as deliberate planning with the fundamental difference being constraints on the time available to conduct refinement.

- **Analyze Transportation.** Supported combatant commanders develop concepts

of deployment based upon mission taskings and guidance found in CJCSI 3110.11B, "Mobility Supplement to Joint Strategic Capabilities Plan." During planning subordinate component commanders are tasked to determine specific forces (unit) and materiel (non-unit) requirements (including personnel replacements) and recommended time phasing of these requirements. Component command force and support requirements are submitted to the supported combatant commander who integrates these requirements with other requirements to develop the joint force TPFDD. Strategic movement requirements are analyzed against apportioned transportation assets found in CJCSI 3110.11B using the Joint Flow and Analysis System for Transportation (JFAST) to determine gross transportation feasibility of plans and operations. Refinements are made to the total movement plan, as required, and the TCCs prepare movement tables for the plan or operation.

- **Review Logistics Sustainability Analysis (LSA).** The LSA is completed during the development and maintenance of combatant command OPLANs and assesses requirements and sourcing of requirements at the tactical, operational, and strategic levels. The LSA provides a broad assessment of key logistic factors by: documenting the results of a process that assures an integrated evaluation of key logistic capabilities, identifying logistic support shortfalls and assessing their risks, and providing a baseline for the Joint Monthly Readiness Review (JMRR) process. The LSA assesses combined support capabilities and describes and validates planned distribution concepts. Preparation of this analysis is a two step process. It begins with the Services' and DOD agencies' assessment of their ability to support a combatant

commander's plan, followed by the combatant commander's assessment of the inputs along with analysis of theater requirements and capabilities. At the end of deliberate planning cycle, or biennially during periods of extended maintenance cycles, the Joint Staff will host sustainability conferences to review current LSA issues. This review converts any operational logistic deficiencies into programming requirements.

- **Develop Distribution Concepts.** Develop a distribution concept for each commodity supply chain.

  - Determine the impact of each element of global distribution on the commodity supply chain, adjusting or adapting, as necessary, to meet the requirements of the supported combatant commander's concept of operation and concept of support.

  - Determine the impact of each global distribution network and function supporting these commodity supply chains, adjusting or adapting, as necessary, to meet the requirements of the supported combatant commander's concept of operation and concept of support.

  - Determine if the major planning considerations of this chapter have been taken into account for each commodity supply chain.

- **Consolidate Supply Chains.** Tie commodity supply chains together by adding up all the requirements, comparing the sum total of requirements to resources needed to

execute the distribution plan, and determine if the proposed distribution plan:

- Supports the concept of operation and the concept of support,

- Causes any unintended consequences that require replanning to eliminate shortfalls or inefficiencies, and

- Meets the tenets and fundamentals of global distribution as set forth in Chapter I.

- **Consider the Application of Joint Theater Logistics Management (JTLM)**. JTLM integrates the logistic capabilities of the forces in-theater to fulfill common-user and cross-Service support mission. JTLM optimizes resources by synchronizing all logistic support efforts in-theater. The objective is to provide rapid, timely delivery of forces, materiel, and sustainment in accordance with the supported combatant commander's concept of operation. The supported combatant commander may choose among a variety of options when organizing to implement JTLM in support of theater operations.

Force protection is an inherent responsibility of command. Commanders are responsible for ensuring that requisite force protection measures are enforced consistent with the threat.

- **Ensure Force Protection.** Coordinate force protection concerns with the Operations Directorate (J3). Comprehensive force protection requires the employment of the full array of active and passive measures and the integration and coordination of intelligence and security programs, information operations (IO), risk management techniques, and safety programs to increase individual awareness of potential threats. Planning for weapons of mass destruction should also be considered.

  - IO are those actions taken to affect adversary information and information systems, while defending one's own information and information systems. Planned improvements in distribution planning and execution systems and the increased

reliance on electronic information systems and automated data processing equipment requires detailed coordination of defensive IO. These systems present potentially enormous vulnerabilities that may be exploited by adversaries intent on disrupting US operations.

For additional information, see JP 3-13, "Joint Doctrine for Information Operations."

5. Distribution Planning Products

The products of successful distribution planning are distribution plans that are articulated in the annexes and supporting plans of a combatant commander's OPLANs. Combatant command distribution plans must guide the planning of other supporting commands and organizations within the DOD, as well as external departments, agencies, and HNs that will be supporting the combatant command. Appendix A, "Commander's Checklist for Global Distribution Planning," contains a generic list of issues or questions that distribution planners should consider when they integrate distribution activities into OPLANs/OPORDs. The questions in this checklist can be used to develop a distribution appendix to Annex D (Logistics) to an OPLAN. The commodity supply chain descriptions provided in Chapter IV, Distribution Execution, provide a basis for development of distribution plans to ensure that critical warfighting materiel is identified, available, and can be placed into action by joint forces at the required time and place.